

FIGURE 1
(Prior Art)

200
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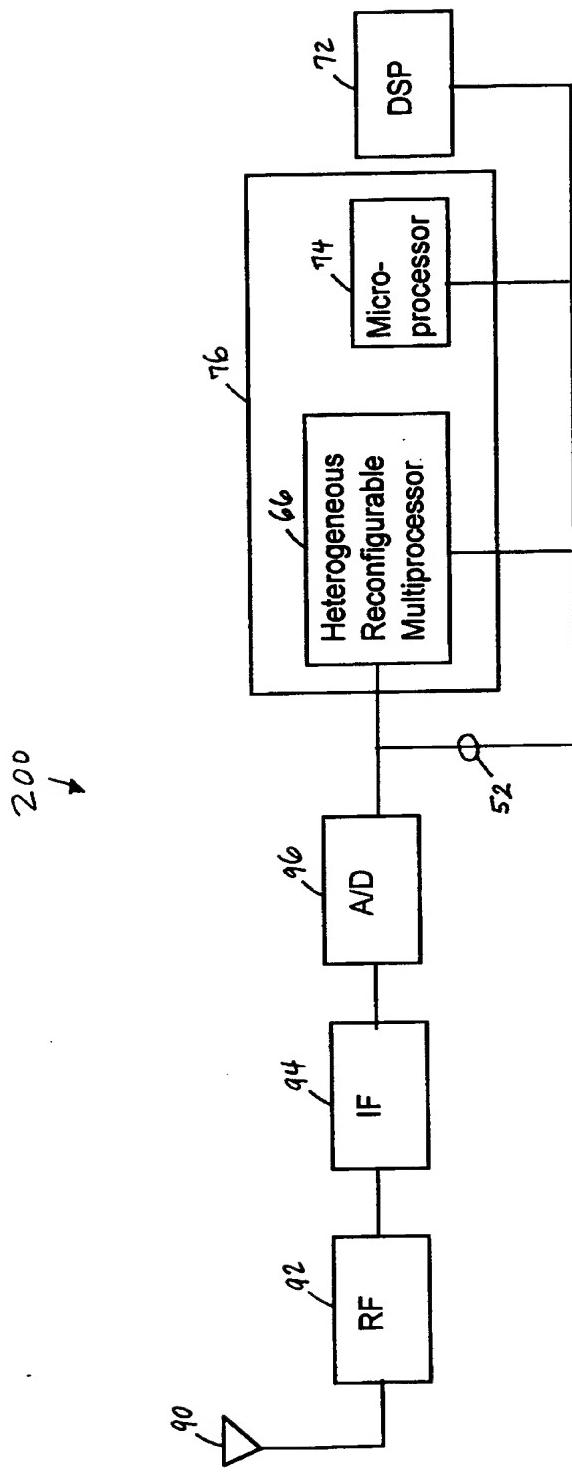
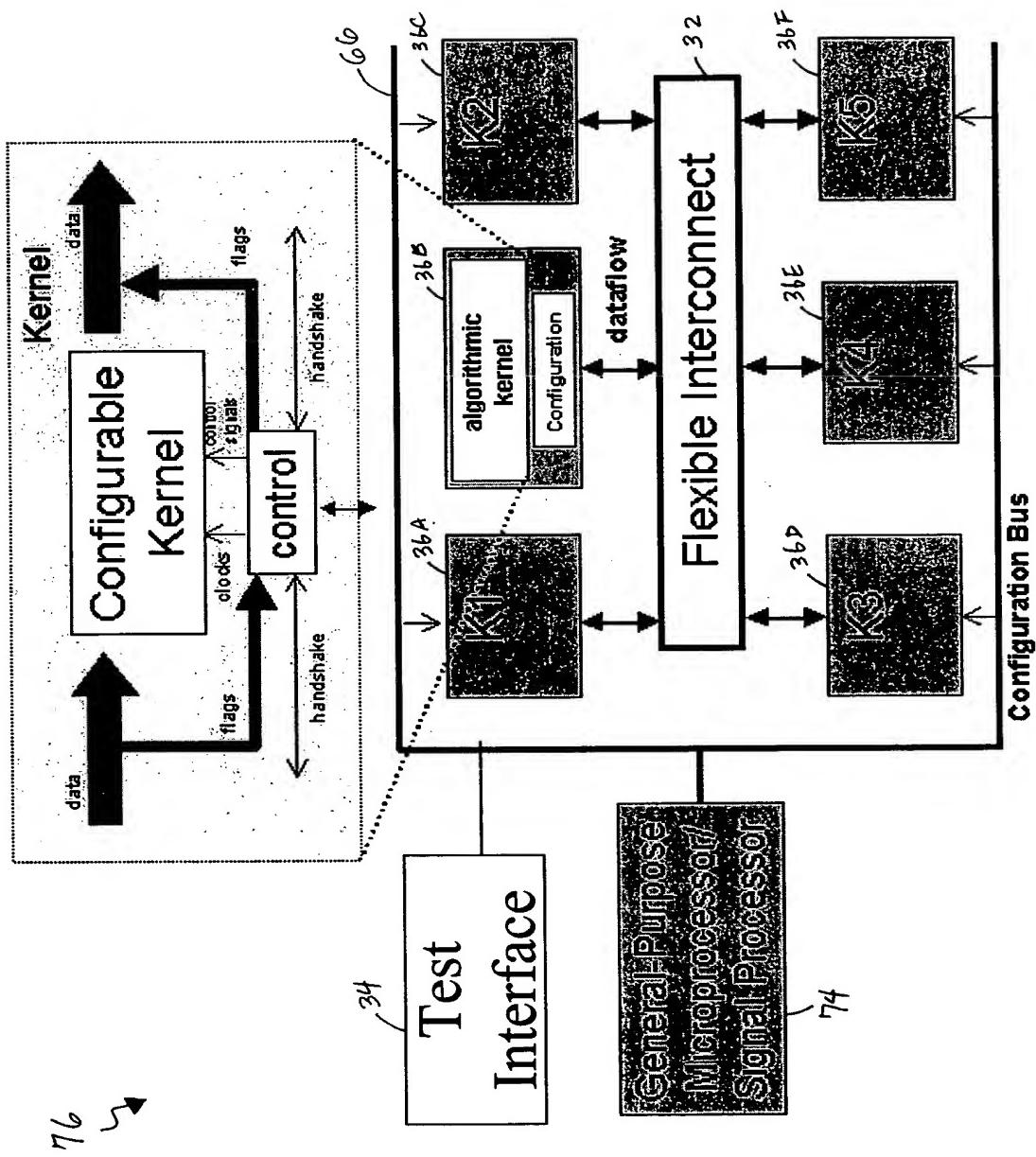


FIG. 2

FIG. 3



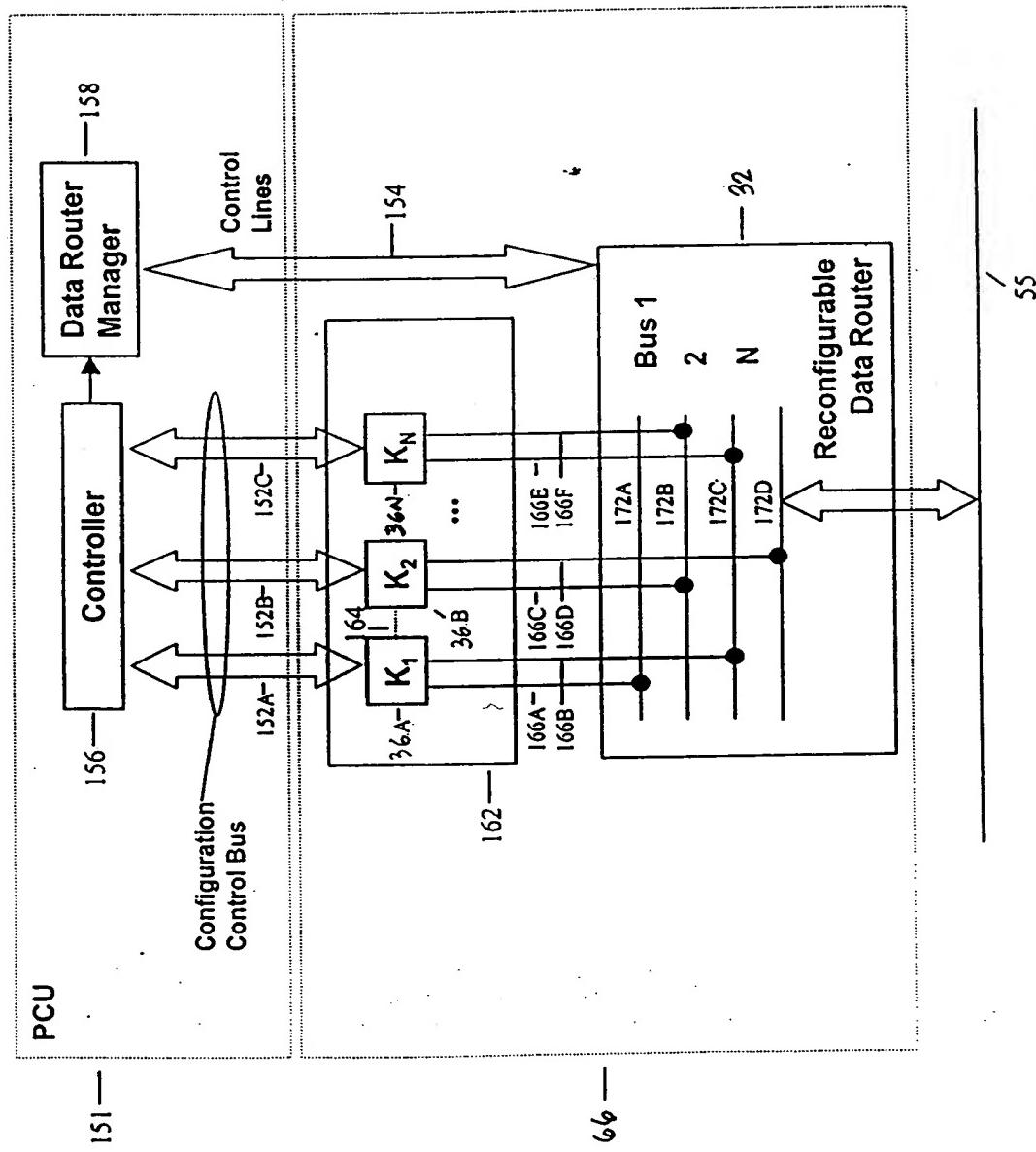


FIG. 4

36 37 38 39 40 41 42 43 44 45 46

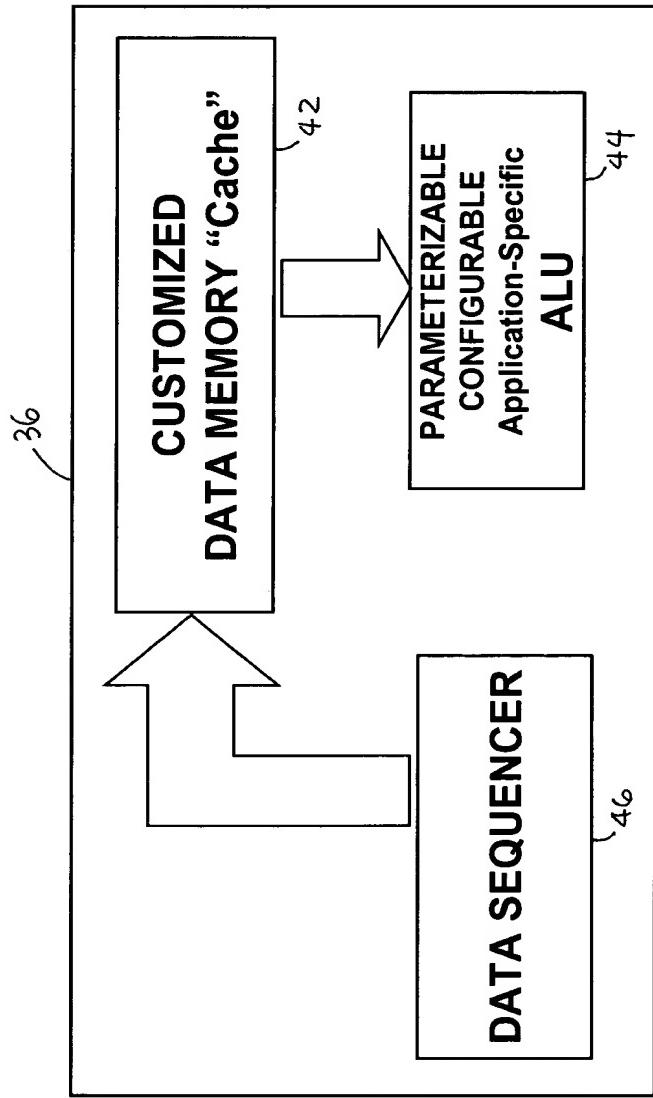


FIG. 5

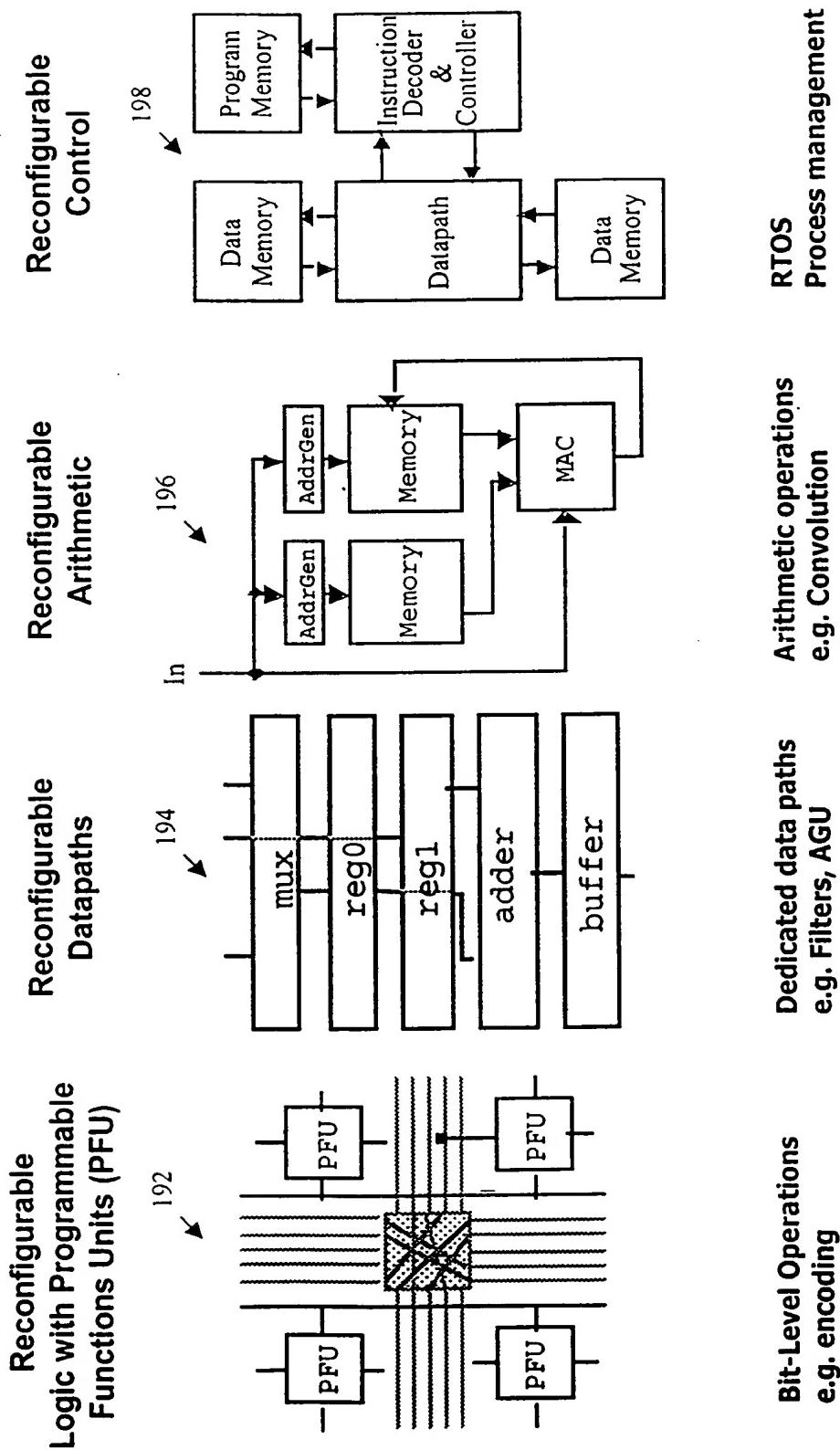


FIG. 6

FIG. 7

Signal Processing Functions

	202	204A	204B	204C	204D	204E	
Rx Filter		Complex Despread		short code	Scrambling		Walsh
CGU overhead							
DLL error signal (non coherent)		12			0	4	
DLL error signal (coherent)		12				4	
Pilot	242		3		3	4	
R-FCH						4	
R-DCH						4	
R-SCH 1						4	
R-SCH 2						4	

Data Paths

200

	TDMA				CDMA				
	IS-136	GSM	GPRS	EDGE	IS-95B	IS-2000	WCDMA-FDD	GPS	Globalstar
Parameter Estimation Functions									
LMS Channel Estimator	x	x	x	x					
Windowed Average Energy Estimator	x	x	x	x	x	x	x		
ML Symbol Timing Estimator	x	x	x	x	x	x	x	x	
ML Carrier Phase Estimator	x	x	x	x	x	x	x	x	
PN Correlator					x	x	x		
MatchedFilter						x	x	x	
Interference Energy Estimator					x	x	x		

FIG. 8

Multi-standard Engine

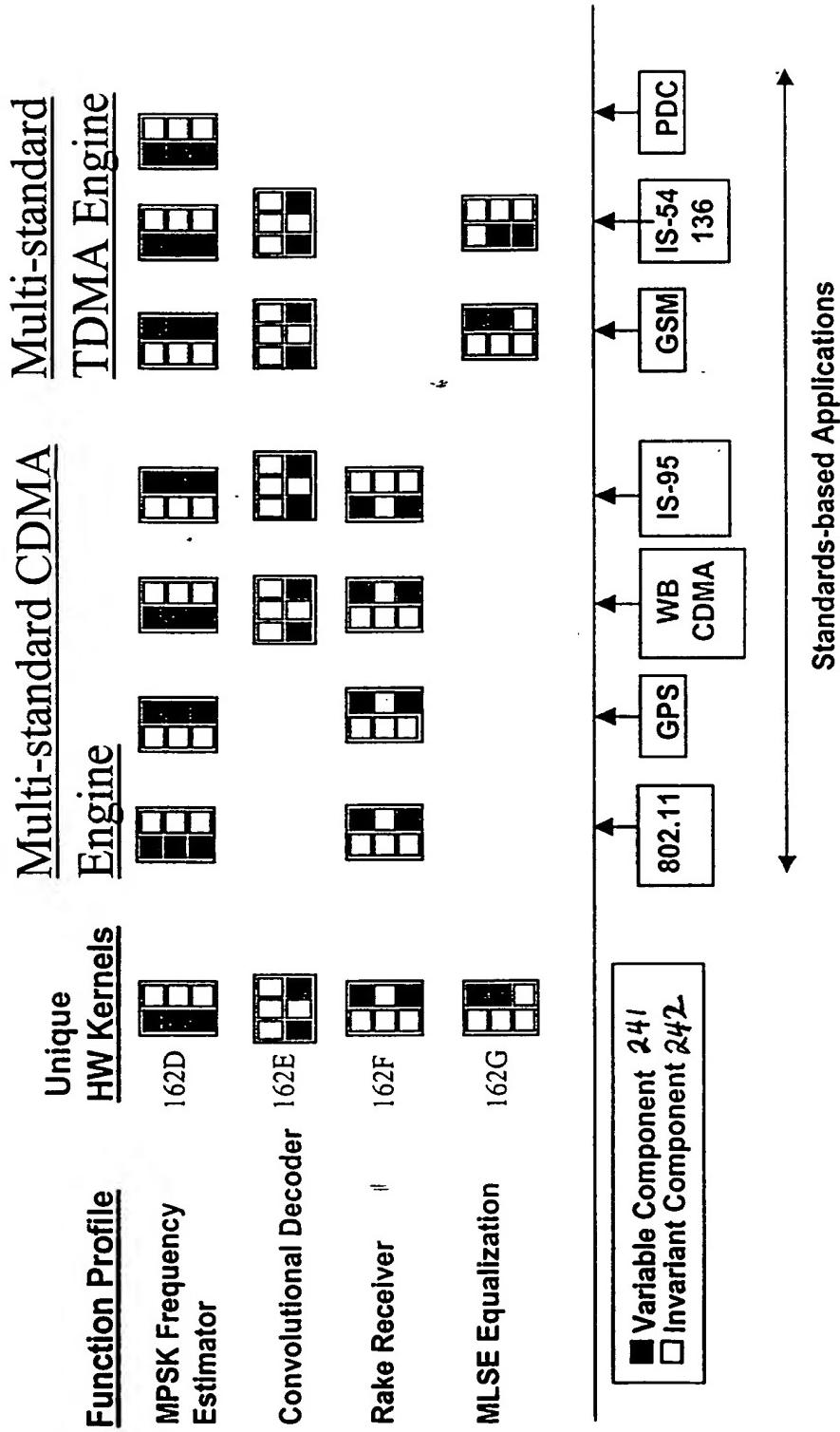


FIG. 9

Signal Processing Flow

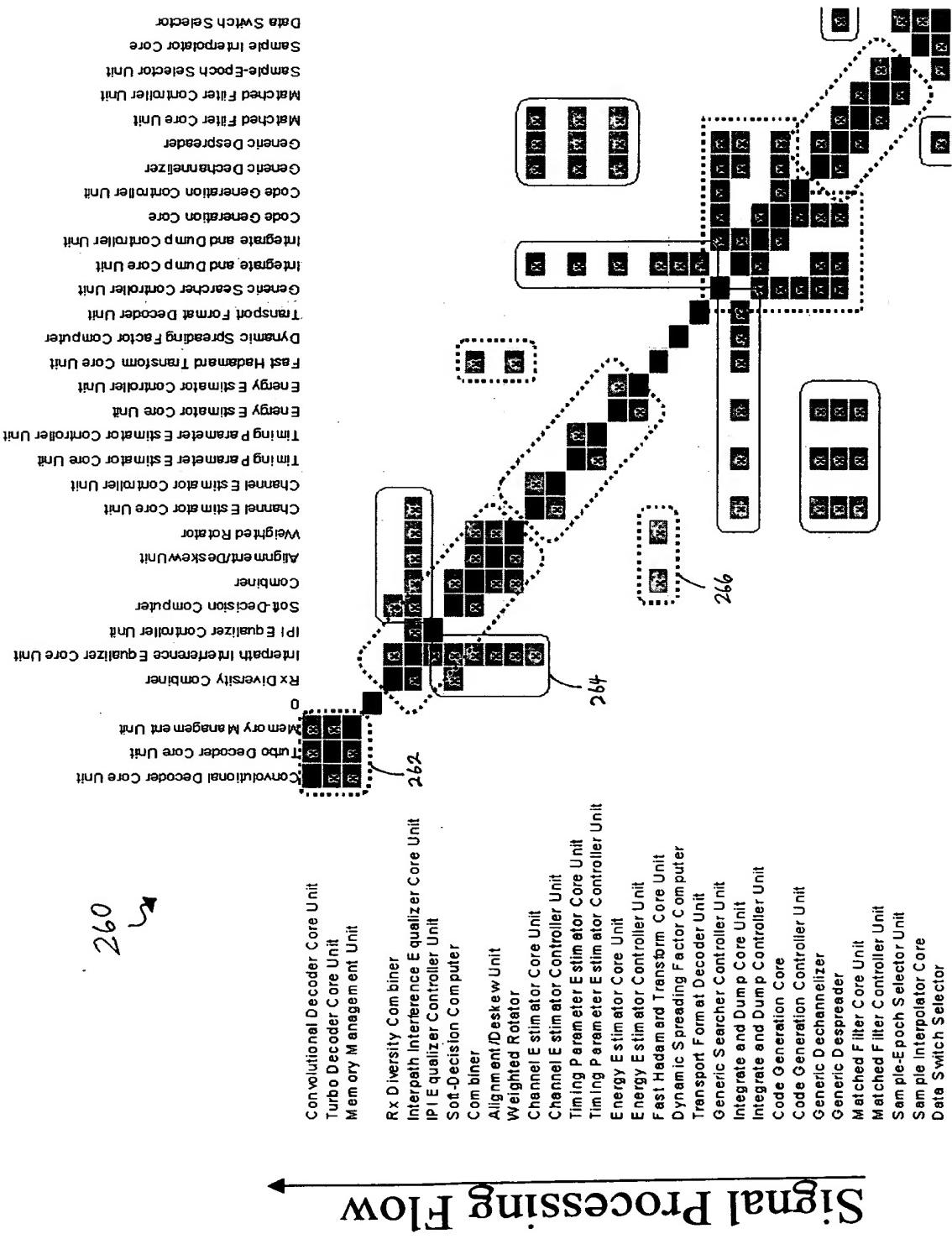


FIG. 10

Application / Product Management

Diagram illustrating Application / Product Management

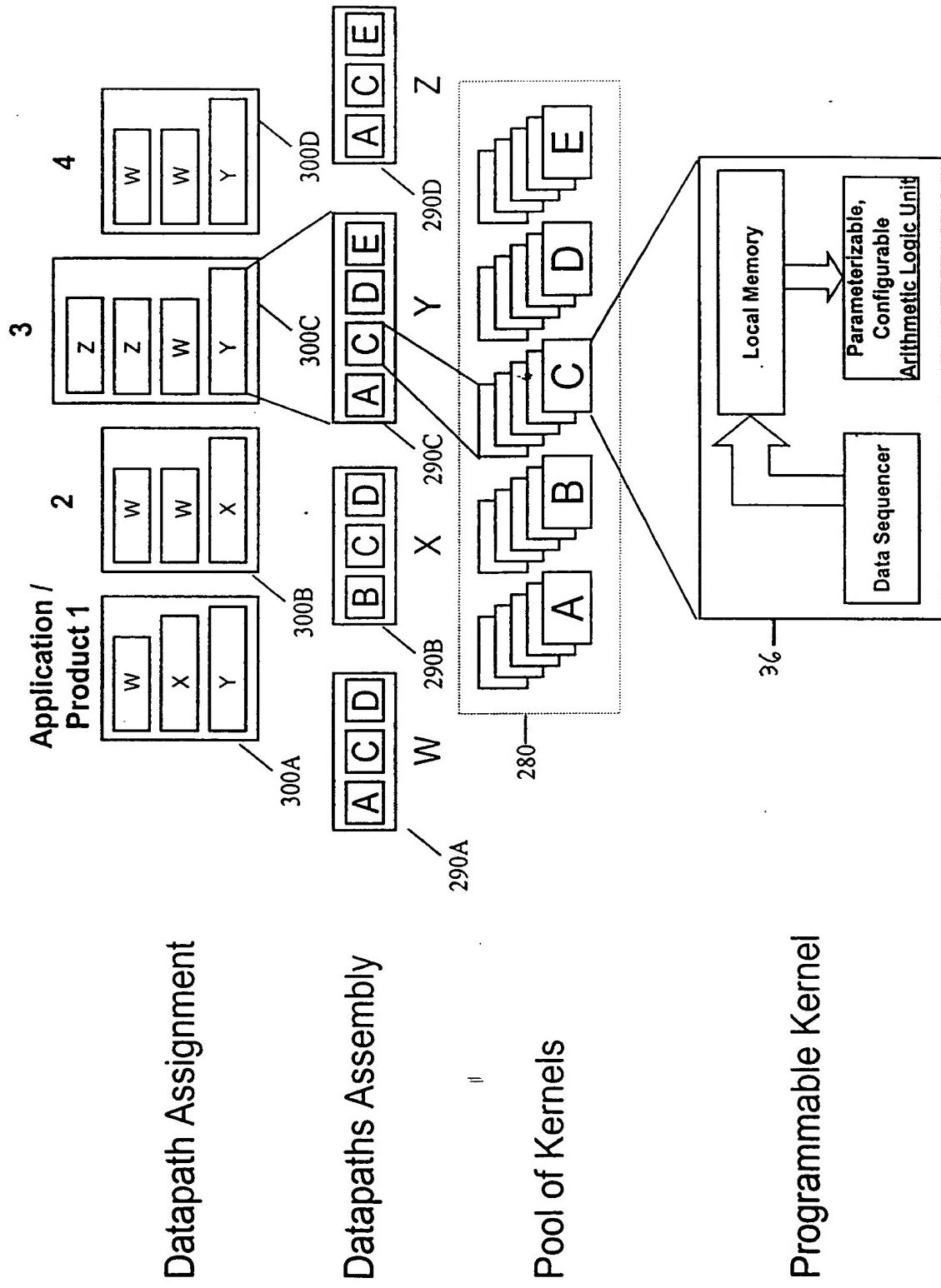


FIG. 11

FIG. 12

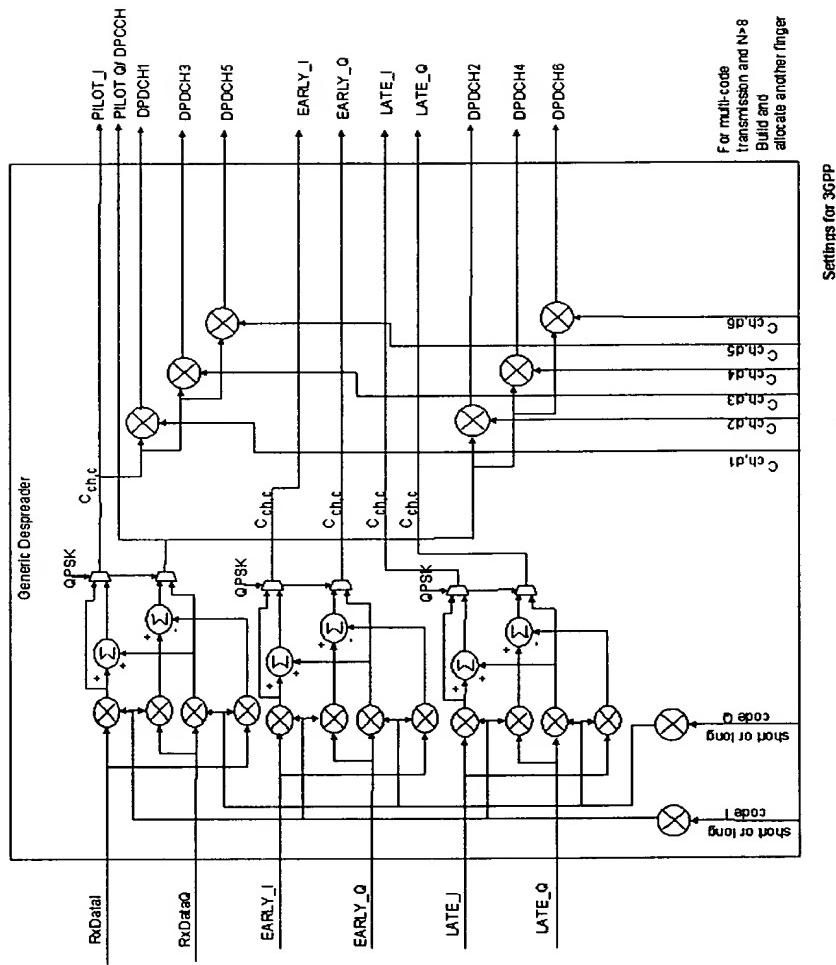


FIG. 13

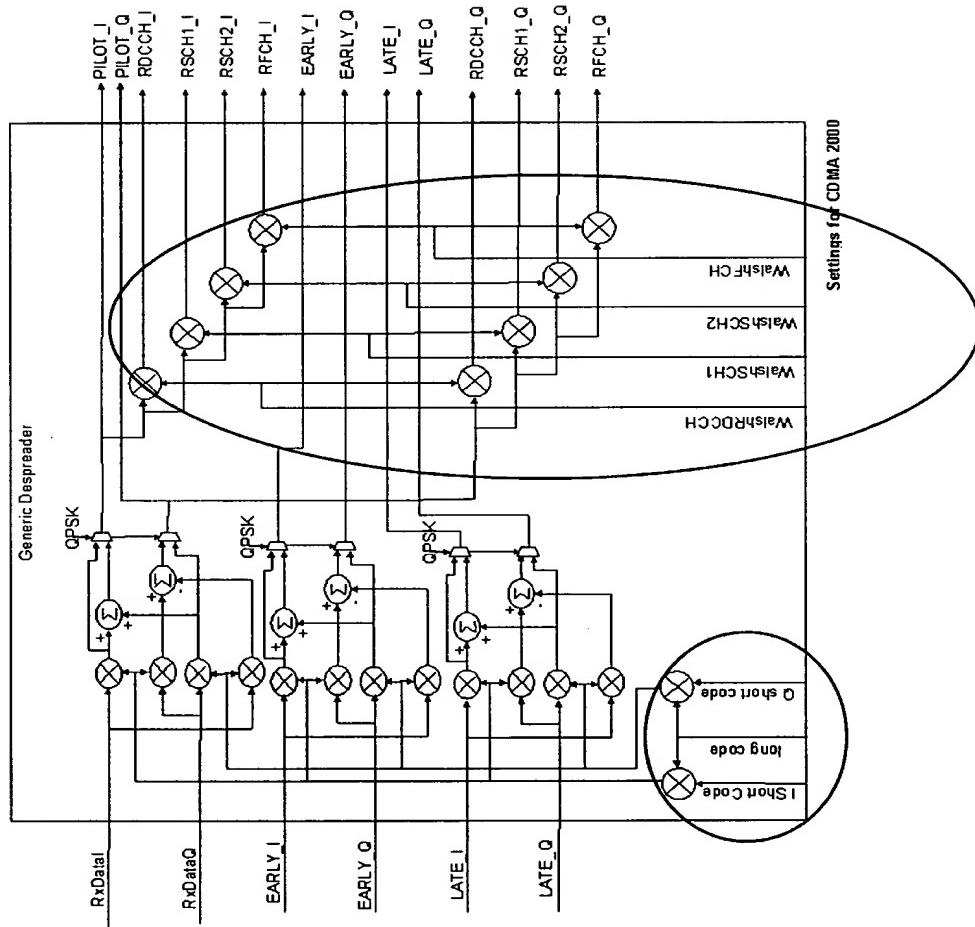
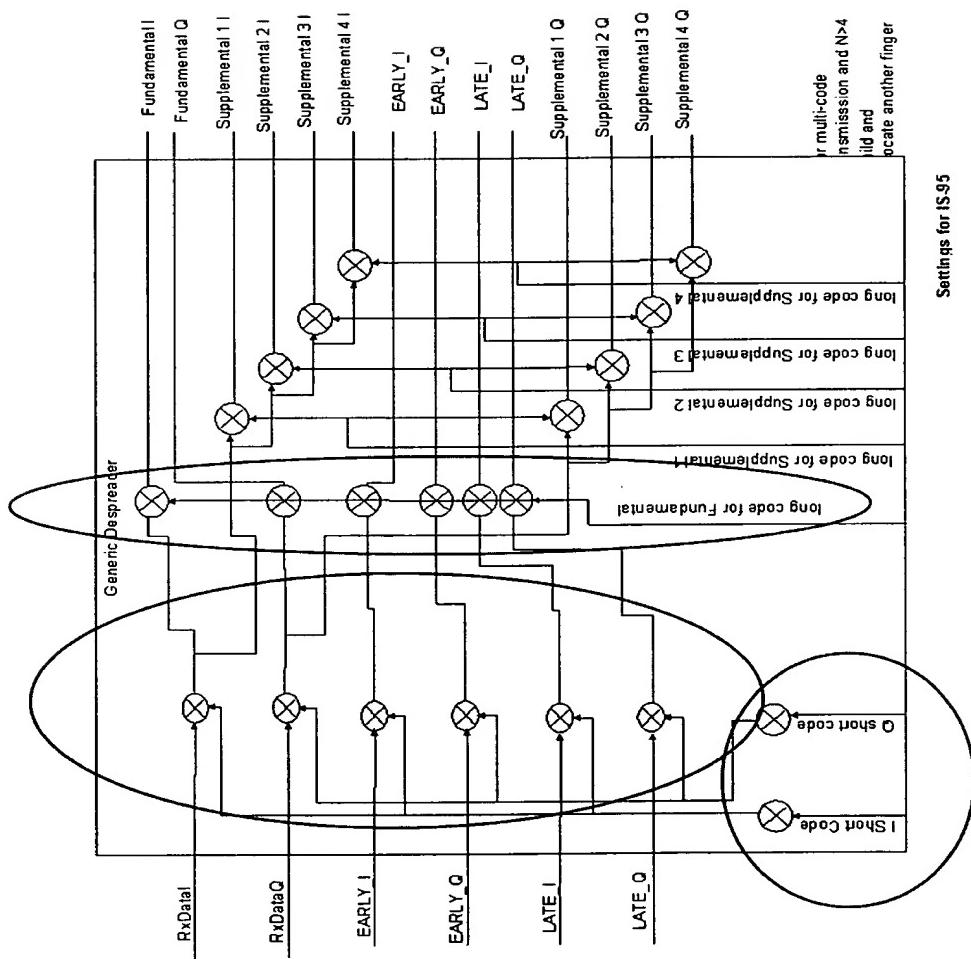


FIG. 14



CDMA Computation Unit Library	
<i>Front End Processing</i> Sample Interpolation	<i>Parameter Estimation</i> Energy Estimator Timing Parameter Estimator Channel Estimator
<i>Chip Rate Processing</i> Sample Epoch Selection Matched Filter Generic Despreaders Generic Dechannelizer Code Generation Unit Integrate and Dump Generic Searcher Control	<i>Channel Element Processing</i> Alignment/Deskewing Combiner Soft Decision Computer Interpath Interference Equalizer Receive Antenna Diversity Combiner
<i>Symbol Sequence Processing</i> Transport Format Decoder Dynamic Spreading Factor Computer Fast Hadamard Transform Rotator/Square	<i>Interleaving</i> Deinterleaver Controller <i>Channel Decoding</i> Turbo Decoder Convolutional Decoder

FIG. 15

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TDMA Computation Unit Library	
<i>TDMA Modem Transmitter</i>	<i>TDMA Modem Receiver</i>
Pulse-shaping	Front-end Filtering
Multiplexing	Adaptive Demodulation
Link Adaptation (AMR)	Synchronization
Antenna Transmit Diversity	Adaptive Parameter Estimation
<i>Channel Decoder</i>	Equalization
Reed Solomon Codes Decoding	Diversity Combining
Fire Codes Decoding	Link Adaptation
Decryption	<i>Channel Encoder</i>
Deinterleaving	Encoding
	Encryption
	Interleaving

FIG. 16

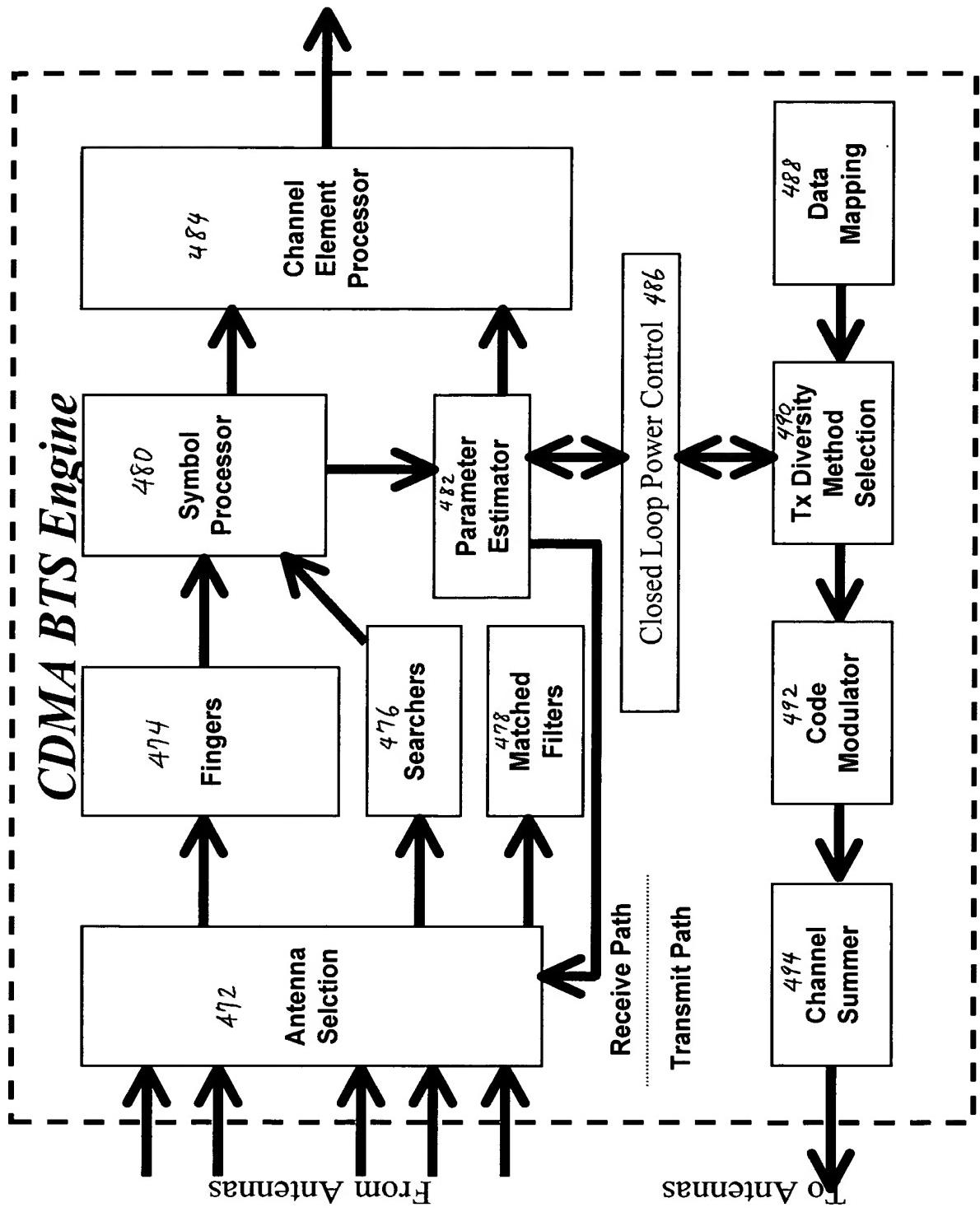


FIG. 17

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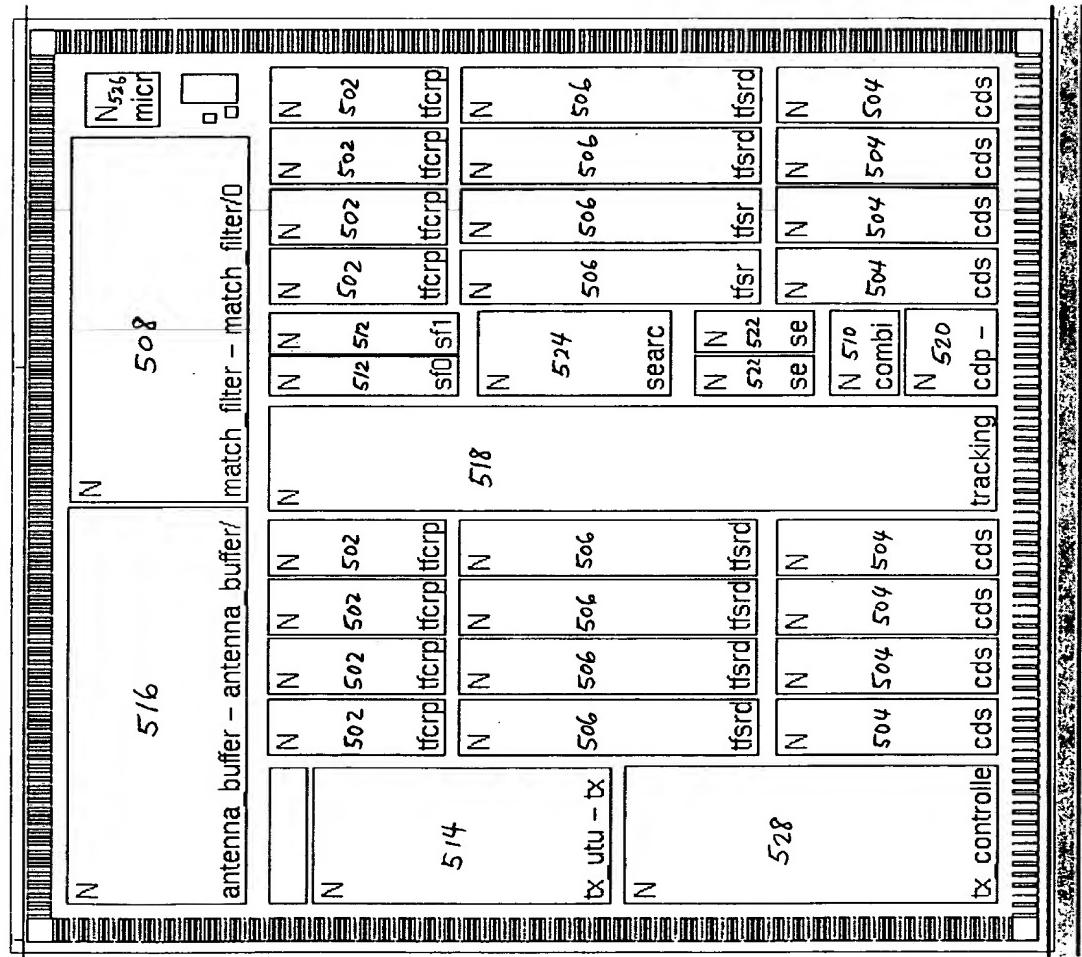


FIG. 18